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# Organic animal husbandry development in developing countries: challenges, contentious issues & opportunities

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## Abstract

*Unlike cereals, spices, cotton, coffee, tea and herbs, organic animal husbandry is mostly confined to Europe and a few developed countries like USA, Australia and Canada. Besides limited export opportunities, problems of small farms, hygiene and existence of infectious diseases in developing countries are obstacles which need to be addressed to develop organic animal husbandry in these countries through enhanced research and development efforts.*

## Introduction

Organic agriculture is rapidly growing around the world (37.2 Million ha in 162 countries) with 1.8 million producers including significant number of organic farmers in developing countries like India. The global market for organic products has reached to US$ 62.8 billion and 86 countries now have an organic legislation across the world (Willer et al 2013).It is also well recognized now that the organic animal husbandry has not grown as faster as cereal crops, fruits, nuts, spices, tea, coffee and cotton. While organic farming is rapidly gaining ground in developing countries, the research and development (R&D) activities in organic animal husbandry is confined to EU and a few other developed countries like USA, Canada and Australia. There are opportunities as well as challenges in organic livestock production in developing countries which need to be addressed.The organic livestock development opportunities in developing countries in Asia, Africa and Latin America can be enhanced with more scientific research in organic livestock production under local conditions and strengthening institutional support (Chander et al. 2011, Nalubwama et al. 2011, Rahmann and Godinho 2012, Chander et al. 2012). Further to this, here an effort has been made to analyze why animal husbandry is not coming up in developing countries despite good opportunities due to natural advantages, taking India as a case.

## Material and methods

Apart from the secondary data collected from the various published information, web search, reports etc, data were collected from 2220 farmers across India on the pre-designed and pre-tested interview schedule with the help of *KrishiVigyan Kendra* (KVK-Farmer training institution at district level in India). The interview schedule contained 40 questions concerning inputs like medicines, fertilizers, feeds, fodder, prevalence of diseases in livestock etc. Total of 37 KVK distributed over 12 states. Jammu & Kashmir, Punjab, Himachal Pradesh, Haryana, Gujarat, Rajasthan, Madhya Pradesh, Orrisa, Assam, Tripura, Sikkim and Arunachal Pradesh were covered in the process of data collection. Out of the responses received from 2220 farmers, data from 1614 farmer respondents through KVKs in 12 states were further grouped in three major groups:1. Irrigated states consisting of Haryana and Punjab 2. Drylandstates consisting of the states of Madhya Pradesh, Orrisa, Rajsthan and Gujarat and 3.Hill states consisting of Arunachal Pradesh, Assam, Himachal Pradesh, Jammu & Kashmir, Sikkim and Tripura. Maximum respondents were from dryland states (1216) followed by Hill states (229) and irrigated states (169). As a Networking exercise, an ICAR sponsored short course for 10 days on Organic Animal Husbandry was conducted, wherein, 20 participants from State Agricultural Universities, ICAR institutes and Dairy federations participated in the course, who also gave valuable inputs for the research project as they presented the scenario with respect to their respective states. The project team delivered the lectures with respect to their disciplines in context of organic Animal Husbandry which were compiled in the form of an edited book for distribution among different stakeholders. An information system on organic livestock farming was also developed in the form of user friendly e-learning tool (CD) to give information to the network members and wider dissemination of information on organic livestock farming. Considering the suitability of hill regions for promotion and development of organic animal husbandry, a focused survey of 180 registered organic farmers (111 Male & 69 female) was undertaken in Uttarakhand state, to know the compatibility of local livestock production practices with the Organic Animal Husbandry Standards (OAHS). A total of 180 organic farmers registered with Uttarakhand

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Organic Commodity Board (UOCB), from three districts (18 villages from 9 blocks) were studied. The survey of organic farms and registered organic farmers was also carried out along with the case studies in Mizoram state (North Eastern region) where organic farming was being promoted by among others the state government. In Mizoram, 150 registered organic farmers and 50 officials involved with organic farming promotion were interviewed for SWOT analysis of organic livestock production in North Eastern Region by taking Mizoram as a case.

## Results

Many constraints and opportunities as regards to organic livestock production in developing countries in general, and India in particular, have been discussed by the authors (Chander et al 2007, Chander et al 2012). Those which need further attention towards continuous development in this sector have been presented here:

1. Organic animal husbandry is land based activity, but livestock are kept by many landless livestock keepers in India. So a good number of livestock farmers are not eligible for organic livestock farming.
2. Even when farmers own land, the number of animals to be maintained per hectare are far too less (Table 1), considering 80% holdings in India are <1 ha and per farmer land ownership is going down due to division of land in the expanding families. The sustainability of organic livestock production at the given stocking rate is difficult to achieve, at least in developing countries like India.
3. Many developing countries in Asia and Africa are not yet free from infectious diseases like Foot & Mouth Disease (FMD), which restricts trade from these countries. The reduced opportunity for export discourages livestock producers to go organic.
4. Small farmers find it difficult to comply with traceability requirements.
5. Sanitary conditions at production sites and processing units need improvement.
6. There was little local demand for organic livestock products *per se*, though the quality consciousness was on the rise among the consumers. The domestic market for organic livestock products needs to be developed.

**Table1. Maximum no. of animals per hectare (Draft Indian standards)**

| Species/Class | Maximum no. per ha |
|---|---|
| Equines over six months old | 2 |
| Calves | 5 |
| Other bovine animals less than one year old | 5 |
| Male bovine animals from one to less than two years old | 4 |
| Female bovine animals from one to less than two years old | 4 |
| Male bovine animals two years old or over | 2 |
| Dairy Cows | 2 |
| Female breeding rabbits | 100 |
| Sheep | 14 |
| Goats | 14 |
| Piglets | 74 |
| Breeding Pigs | 7 |
| Pigs for fattening | 14 |
| Chicken | 580 |
| Laying Hens | 230 |

7. Grazing land is shrinking due to reducing community land and also change in land use pattern.

8. Natural sources of essential amino acids (Methionin, for instance) are not available good enough to meet the requirements of livestock particularly swine & poultry.
9. Green fodder supply is insufficient to meet the requirement of the livestock. Animal survive on poor quality roughages.
10. Housing conditions are often improper, increasing risk of zoonotic diseases.
11. Research and development investment in the area of organic animal husbandry is nearly nil.
12. The per animal health cost was negligible in traditional livestock keeping which was prominent though the trend was towards intensification where this cost is likely to go up.

## Discussion

Inspite of the favorable situation existing like traditional animal husbandry, Indigenous Technical Knowledge, limited or no antibiotic use, limited chemical fertilizers application, less dependence on market for inputs in many developing countries like India, the limitations too are seriously restricting the growth of organic animal husbandry in these countries especially the stocking density, feed and fodder scarcity, sanitation, infectious disease prevalence etc,. May be the increasing interest in this underdeveloped organic sector by *inter alia* FAO (http:// www.fao.org/docrep/017/aq381e/aq381e.pdf) and IFOAM would help develop organic animal husbandry in developing countries. The recent initiative i.e International Animal Husbandry Alliance (IAHA) by IFOAM (http://www.ifoam.org/en/sector-groups/iaha-animal-husbandry-alliance) may help in this direction.

## Suggestions to tackle with the future challenges of organic animal husbandry

The Research & development agencies in developing countries as also international organizations should augment funding for research and development efforts to develop organic animal husbandry sector to improve the availability of high quality, safe, organic animal products for the consumers.

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